

## **REMARKS ARGUMENTS**

### **Overview of Amendments to the Specification:**

Paragraph [0024] of the specification has been amended to include reference to use of an engineered polymer such as Delrin®, for which support exists in Claim 7 as filed.

### **Overview of Listing of Claims:**

Claims 1 and 7 remain in the application. Claim 8 has been added.

### **Overview of Currently Amended Claims:**

Claim 1 has been amended to correct informalities pointed out by the examiner, including grammatical errors, non-antecedent basis problems, and inconsistent use of identical terms. Further amendments to claim 1 beginning with “wherein” in the last paragraph thereof are supported by the specification and claims 2 to 6 as filed.

Claim 7 has been amended to overcome the rejection under 35 USC § 112 by eliminating use of “(e.g., Delrin®)”. Claim 8 has been added, and paragraph 24 of the specification has been amended to include reference to use of Delrin®, for which support exists in Claim 7 as filed.

Applicant submits that the amended claims also overcome the rejections under 35 USC § 102 and 35 USC § 103 as discussed more fully below.

### **Information Disclosure Statement**

The examiner’s statement is noted.

### **Claim Objections**

Claim 1 has been amended to correct informalities pointed out by the examiner, including grammatical errors, non-antecedent basis problems, and inconsistent use of identical terms. Withdrawal of the rejection is respectfully requested.

### **Claim Rejections – 35 USC § 112**

Claim 7 has been amended to overcome the rejection under 35 USC § 112 by deleting “(e.g., Delrin®)” and incorporating that feature in new claim 8. Reconsideration and withdrawal of the rejection are respectfully requested.

**Claim Rejections – 35 USC § 102**

The examiner has rejected claims 1-2, 4, and 6-7 under 35 USC § 102(b) as being anticipated by Spies, Jr. US 3,472,481. However, claims 2 through 6 have been canceled, and claim 1 has been amended to include features of applicant's invention not taught or suggested by Spies, i.e., the retaining means limiting the radial expansion of the soft tip (from claim 5) and acting as a secondary metal to metal seal (from claim 3). Spies' failure to teach these aspects of applicant's invention was noted by the examiner in paragraph 8 of the Office Action. Further, if Spies made the retaining means cover the soft tip, that would negate the function of his self-aligning seal. Spies relies on a "loose fit" (col. 2, line 35 and col. 3, line 39) that permits "transverse movement of the said seating element stem portion" (col. 4, lines 49-50) for self-alignment. Spies cannot fix the seal from radial expansion and allow transverse movement at the same time.

For these reasons, reconsideration and withdrawal of the rejection under 35 USC § 102(b) are respectfully requested.

**Claim Rejections – 35 USC § 103**

The examiner's rejection of claims 3 and 5 under 35 USC § 103(a) as being unpatentable over Spies, Jr. US 3,472,481 in view of Scapes US 4,119,296 does not apply to Claim 1, as amended to include the features of claims 2 through 6.

Spies relates to a self-aligning valve closure in which the seating element 52 has "resilience" and "elasticity". (Col. 3, lines, 38-42.) "The seating element 52 may be a single piece..., or it may be formed by joining of two or more parts." (Col. 3, lines 59-61.) "A preferred material for the seating element or washer...is nylon, which has been impregnated with molybdenum disulfide, although other suitable materials notably other plastics may be used." (Col. 4, lines 13-16.) However, as noted by the examiner, "Spies lacks the retaining means limiting the radial expansion of the soft tip and acting as a secondary metal to metal seal." (Paragraph 8 of the Office Action.) These features of claims 5 and 3 as filed have been incorporated in applicant's amended claim 1. Further, Spies neither teaches nor suggests applicant's retaining means allowing rotation of the conical shaped soft tip with respect to the metal valve stem; and wherein during high axial force contact with the annular seat, the conical shaped soft tip does not rotate

relative to the annular seat. This feature of claim 6 as filed has been incorporated in applicant's amended claim 1. Finally, if Spies made the retaining means cover the soft tip as suggested by the examiner, that would negate the function of his self-aligning seal. Spies relies on a "loose fit" (col. 2, line 35 and col. 3, line 39) that permits "transverse movement of the said seating element stem portion" (col. 4, lines 49-50) for self-alignment. Spies cannot fix the seating element from radial expansion and allow transverse movement at the same time.

Scapes relates to a valve with an enclosed soft tip stem. Scapes "...comprehends providing means for containing the cold flowable sleeve 32 radially outwardly of the retaining means shank portion 34 while permitting the sleeve to cold flow inwardly about the retaining means head 36 to provide improved sealed relationship of the sleeve with the body seat and port...." (Col. 4, lines 18-24.) Further, Scapes' secondary seal is achieved with a separate metal retaining sleeve that is attached to the stem with a screw. The retaining ring must be free to move in the axial direction as the seal cold flows in order to have the seal move inward as in Scapes' Fig. 3. Finally, the secondary seal must be maintained at the top and bottom of the retaining sleeve, which adds potential leak points. There is no mention as to how the metal retaining sleeve is attached to the tubular seal.

One skilled in the art would not combine Spies and Scapes because one cannot combine Scapes' retaining means and fixed transverse movement (Col. 4, lines 18-24) with Spies' "loose fit" (col. 2, line 35 and col. 3, line 39) that allows transverse movement (col. 4, lines 49-50). In other words, one cannot fix the seating element and allow transverse movement at the same time.

Applicant notes that Spies and Scapes were filed October 22, 1965 and March 4, 1977 respectively. More than 27 years have passed since the latter filing without applicant's invention being done by anyone else. The well-known principle of "long-felt but unresolved need" militates toward patentability of applicant's novel and non-obvious invention. *Custom Accessories Inc. v. Jeffrey-Allan Industries, Inc.*, 807 F.2d 955, 1 U.S.P.Q.2d 1196 (Fed. Cir.1986). As the court said, "Objective evidence of non-obviousness includes commercial success, long-felt but unresolved need, failure of

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others, and copying. When present, such objective evidence must be considered. It can be the most probative evidence of non-obviousness in the record, and enables the district court to avert the trap of hindsight.”

For these reasons, reconsideration and withdrawal of the rejection under 35 USC § 103 are respectfully requested.

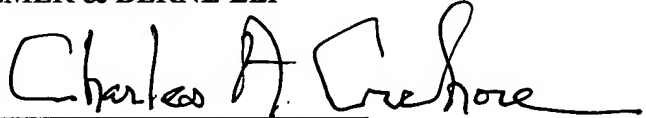
**Conclusion:**

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Please charge any additional fees or credit any overpayments to Ulmer & Berne Deposit Account No. 50-1884.

Respectfully submitted,

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